

Application No. 10/049,690

Inventors: Thomas Tiedemann and Otfried Schwarzkopf  
Response to 08/27/03 Office Action

AMENDMENT TO THE SPECIFICATION

Page 1: replace the paragraph starting at lines 12 through 14 as follows:

*B1*  
The invention relates to an axial piston drive with a continuously adjustable piston stroke ~~according to the precharacterizing clause of Claim 1.~~

Page 9: replace the paragraph starting at lines 24 through 28 as follows:

*B2*  
The ~~positioning~~ setting piston 44, together with the cylinder, encloses a pressure space 74 that is sealed off by three seals 68, 70, 72. The swash plate 16 is connected to the adjustor housing 54 by way of a joining element 66, which is formed integrally with the swash plate 16, and by an off-centre joint 52.

Page 9: replace the paragraphs starting at lines 29 through 32 and page 10 starting at lines 1 through 13 as follows:

*B3*  
When compressed oil enters the pressure space 74, the ~~positioning~~ setting piston 44 is displaced, together with the sleeve 64, the joint head 48 and the swash plate 16, in the direction towards the cylinders 22, 24, against a prestressed pressure spring 92 (Fig. 2). The pressure spring 92 is nonrotatably attached to the drive shaft 10 and is braced against a tension ring 94 in the direction away from the setting piston 44. By the off-centre joint 52, formed by a bolt 98 that is fixed to the joining element 66 and is guided within a slot 96, the stroke movement of the swash plate 16 causes a moment of tilt acting on the swash plate 16. Upon the stroke movement of the swash plate 16 is superimposed a tilting movement, guided by the bolt 98 in the slot 96, so that in all cases a top-dead-centre point 100 of the piston 26, 28 within the cylinders 22, 24 is preserved. So that only a small amount of oil is required, the volume of the pressure space 74 is preferably small.

Pages 11 and 12: replace the paragraphs starting at lines 13 through 33 on page 11, and lines 1 through 10, page 12, as follows:

Figure 3 shows part of a variant of an axial piston drive with a controller 20. Components that are substantially the same are in general identified by the same reference numerals. Regarding the function and components not shown here, reference is made to the exemplary embodiment in Figs. 1 and 2. The controller 20 comprises an adjustment unit 32 with a setting piston 46 that is nonrotatably disposed in an annular recess 122 in a housing 114 of the axial piston drive. This arrangement makes an additional adjustor housing unnecessary. The positioning-setting piston 46 is loaded in the direction towards the swash plate 16 by a first compression spring 136, is sealed off from the housing 114 by two seals 116, 118 and acts on the swash plate 16 in the axial direction, by way of a sleeve 120 and a joint head 50 formed integrally with the sleeve 120, against a second prestressed, stronger pressure spring 124. In the direction away from the setting piston 46 the spring 124 is braced against a shoulder 126 of a drive shaft 12. The swash plate 16 is braced in the axial direction by an off-centre joint (not shown here), so that the stroke movement of the swash plate 16 exerts a moment of tilt on the swash plate 16. The setting piston 46 and the sleeve 120 are connected to one another by an axial bearing 128 that acts on both sides, such that the positioning-setting piston 46 forms inner bearing faces whereas the sleeve 120 and a fastening element 130 form outer bearing faces. With the fastening element 130, which is connected to the sleeve 120 by a screw thread 132, the degree of axial play in the axial bearing 128 can be set to a specified value. The adjustment unit 32, i.e. the setting piston 46, is supplied with compressed oil from an oil separator 34 by way of an axial bore 134, as is the adjustment unit 30 (cf. relevant part of Fig. 4).